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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.     | CONFIRMATION NO.       |
|---|-------------|----------------------|-------------------------|------------------------|
| 10/763,128  | 01/22/2004  | Brant D. Nystrom     | 2003-0485.02            | 6187                   |
| 21972 7590 10/29/2007<br>LEXMARK INTERNATIONAL, INC.<br>INTELLECTUAL PROPERTY LAW DEPARTMENT<br>740 WEST NEW CIRCLE ROAD<br>BLDG. 082-1<br>LEXINGTON, KY 40550-0999 |             |                      | EXAMINER<br>ABDI, AMARA |                        |
|   |             |                      | ART UNIT<br>2624        | PAPER NUMBER           |
|   |             |                      | MAIL DATE<br>10/29/2007 | DELIVERY MODE<br>PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/763,128

Applicant(s)

NYSTROM ET AL.

Examiner

Amara Abdi

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,10-16 and 20-24 is/are rejected.
- 7) ☒ Claim(s) 2,7-9 and 17-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> .                                  | 6) <input type="checkbox"/> Other: _____                          |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :01/22/2004  
08/23/2007.

### **DETAILED ACTION**

1. Applicant's response to the last office action, filed August 25, 2007 has been entered and made of record.
2. In view of the Applicant amendments, the objections to the drawing are expressly withdrawn.
3. In view of the Applicant amendments, the objection to the specification is expressly withdrawn.
4. In view of the Applicant amendments, the objection to claim 2 is expressly withdrawn.
5. In view of the Applicant amendments, the rejection of claims 7-9 under 35 U.S.C 112 is expressly withdrawn.
6. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

### **Remarks**

7. Applicant's arguments with respect to claims 3,11,13, and 21 have been fully considered, but they are not persuasive.

#### **7.1- regarding claims 3 and 13:**

- a. Applicant's argues that the method and system as defined by claims 3 and 13 are nonobvious over patentably distinguishable from Sussman et al. and charpentier further in view of Sawada et al.

However, in response to the Applicant's argument, the Examiner would like to point out that with a new ground of rejection, the claims 3 and 13 are obvious over Sussman et al. and **Miyamoto** further in view of Sawada et al.

Sussman et al. and **Miyamoto** disclose all the subject matter of claim 1, and Sawada et al. disclose all the subject matter of claim 3, and since Sussman et al., **Miyamoto** and Sawada et al. are analogous art, one of ordinary skill in the art will recognize the combination of Sussman et al. with Sussman et al., and **Miyamoto**, and the obviousness is proper.

b. Applicant's argues that neither Sussman et al. nor Charpentier teach or suggest the use of compression ratio CR as defined in the subject application.

However, in response to the Applicant's argument, the Examiner would like to invite the Applicant to point out the compression ratio in the application. After carefully reviewing the application, the compression ratio was found neither in the specification, nor in the claims.

With the new grounds of rejection, Sussman et al. and Miyamoto clearly teaches the concentration ratio in claims 1 and 10, in which the claims 3 and 13 depends, therefore the rejection of claims 3 and 13 is good and should be sustained.

**7.2- regarding claims 11 and 21:**

a. Applicant's argues that the method and system as defined by claims 11 and 21 are nonobvious over patentably distinguishable from Sussman et al. and charpentier further in view of Hannah.

However, in response to the Applicant's argument, the Examiner has introduced a new motivation, which is obvious over Sussman et al. and of Miyamoto in view of Hannah.

b. Applicant's argues that Hannah does not teach a method of processing an image to reduce artifacts caused by image processing. Further Hannah does not using a compression ratio CR as defined in the subject application.

However, in response to the Applicant's argument, the Examiner would like to point out that the claim language is given its broadest reasonable interpretation. The specification is not measure of invention. Therefore, limitations contained therein cannot be read into the claims for the purpose of avoiding the prior art (the method of processing an image to reduce artifacts caused by image processing is not claimed in claims 11 and 21).

Furthermore, the compression ratio was mentioned neither in the specification, nor in the claims.

With the new grounds of rejection, Sussman et al. and Miyamoto clearly teaches the concentration ratio in claims 10 and 20, in which the claims 11 and 21 depends, therefore the rejection of claims 11 and 21 is good and should be sustained.

**Claim Rejections - 35 USC § 103**

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2624

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1,4-6,10,14-16,20, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sussman et al. (US 5,686,960) in view of Miyamoto (US-PGPUB 2002/0175986).

**(1) Regarding claims 1,10, and 24:**

Sussman et al. disclose a moving-window, histogram equalization method of processing images (column 25, line 44-47), system (column 2, line 40-41), and computer program (column 6, line 26-30), the method comprising:

breaking the image into a plurality of tiles (column 6, line 39-41); and

processing each of the plurality of tiles by (column 5, line 59-60), (it is read that the image processor is processing the plurality of tiles) by

obtaining a control parameter (column 27, line 35-37);

determining a histogram for one of the plurality of tiles (column 9, line 21-23), (the determining of histogram is read as the same concept as the determining of a histogram area).

determining an area of the image that includes the one of the plurality of tiles and information outside the one of the plurality of tiles (column 10, line 15-18);

creating a first output by performing a histogram equalization on the area (column 9, line 21-23);

creating a second output based on the control parameter and the first

output (column 15, line 64-67); and

using the second output to process the one of the plurality of tiles (column 16-line 1-3).

Sussman et al. do not explicitly mention the determining of a concentration ratio for the plurality of tiles.

Miyamoto, in analogous environment, teaches an image forming process and image forming apparatus, where determining the concentration ratio of the liquid (paragraph [0030], line 8-10), (the determining of a concentration ratio of the liquid is read as the same concept as the determining of concentration ratio of tiles, since the ratio concentration is a number).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Miyamoto, where determining the concentration ratio of the liquid, in the system of Sussman et al. in order to further improve the image quality in the forgoing image forming method (paragraph [0015], line 1-3).

**(2) Regarding claims 4 and 14:**

Sussman et al. further disclose the method, and system (column 2, line 40-41), where the area includes the one of the plurality of tiles (column 10, line 17-18), (the examiner interpreted that the tiles are included in the area) and one or more portions of other tiles in the plurality of tiles (column 24, line 50-53), (it is read that the portion of tiles are included in the subdivided areas).



**(3) Regarding claims 5 and 15:**

Sussman et al. further disclose the method, and system (column 2, line 40-41), where obtaining the first control parameter includes obtaining a control parameter from a user (column 44, line 57-60), (it is read that the removing of the undesirable motion blur from the real time image by the user includes the control parameter).

**(4) Regarding claims 6 and 16:**

Sussman et al. further disclose the method, and system (column 2, line 40-41), where determining a concentration ratio for the one of the plurality of tiles includes scaling a concentration ratio value (column 26, line 25-34).

**(5) Regarding claim 20:**

Sussman et al. disclose an image processing system (column 2, line 40-41), comprising:

an image capture device operable to output an image (column 5, line 37-39, and column 16, line 14-16); and

a controlled, equalization processor coupled to the image capture device, the processor configured to break the image into a plurality of tiles and process each of the plurality of tiles (column 5, line 59-60) by

determining an area of the image that includes the one of the plurality of tiles and information outside the one of the one or more tiles (column 10, line 15-18);

creating a first output by generating a histogram of the area (column 9, line 21-23);

creating a second output based on the control parameter and the first output (column 15, line 64-67); and

using the second output to process the one of the plurality of tiles (column 16, line 1-3).

Sussman et al. do not explicitly mention the determining of a concentration ratio for the one of plurality of tiles.

Miyamoto, in analogous environment, teaches an image forming process and image forming apparatus, where determining the concentration ratio of the liquid (paragraph [0030], line 8-10), (the determining of a concentration ratio of the liquid is read as the same concept as the determining of concentration ratio of tiles, since the ratio concentration is a number).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Miyamoto, where determining the concentration ratio of the liquid, in the system of Sussman et al. in order to further improve the image quality in the forgoing image forming method (paragraph [0015], line 1-3).

10. Claims 3 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sussman et al., and Miyamoto, as applied to claims 1 and 10 above, and further in view of Sawada et al. (US 7,023,582).

Sussman et al., and Miyamoto disclose all the subject matter as described in claim 1.

Sussman et al., and Miyamoto do not explicitly mention the creating of the first output includes creating a first look-up table and creating the second output includes creating a second look-up table.

Sawada et al., in analogous environment, teaches an image processing apparatus, where creating the first output (column 4, line 10), (the generating of the first address is read as the creating of the first output) including creating of the first look-up table (column 4, line 9-12), and the creating of the second output (column 4, line 17), (the generating of the second address is read as the creating of the second output) including creating second look-up table (column 4, line 15-17).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Sawada et al., where creating the first and the second look-up table, in the system of Sussman et al. in order to realize the reproduction of a black character, and elimination of instability of dark color reproduction (column 2, line 1-3).

11. Claims 11 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sussman et al., and Miyamoto, as applied to claims 10 and 20 above, and further in view of Hannah (US 5,859,710).

Sussman et al., and Miyamoto disclose all the subject matter as described in claims 10 and 20 above.

Sussman et al., and Miyamoto do not explicitly mention the coupling of the printer to the processor.

Hannah, in analogous environment, teaches a digital copying system using a high-speed data bus without the use of data buffers, where the printer is coupled to the processor (column 3, line 14-16).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Hannah, where the printer is coupled to the processor, in the system of Sussman et al. in order to transfer a digital image faster to suit the needs of print engine to print the object in real time (column 3, line 8-9).

12. Claims 12 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sussman et al., and Miyamoto, as applied to claims 10 and 20 above, and further in view Safai (US-PGPUB 2003/0048361).

Sussman et al., and Miyamoto disclose all the subject matter as described in claims 10 and 20 above.

Sussman et al., and Miyamoto do not explicitly mention that the image capture device is coupled to the processor.

Safai, in analogous environment, teaches a digital camera, where the digital camera includes an imaging unit connected to a digital image processor (Fig. 2A, paragraph [0035], line 3-5), (the connecting of the imaging unit to the processor is read as the same concept as coupling the imaging unit to the processor).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Safai, where the image capture device and the processor are coupled, in the system of Sussman et al. in order to have available

components that can be used by a variety of digital camera manufacturers, regardless of their specific image sensor, color interpolation scheme (paragraph [0010], line 2-4).

13. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paik et al. (US 6,163,621) in view of Miyamoto (US-PGPUB 2002/0175986).

Paik et al. disclose a method of processing an image, comprising:

Capturing an image of an object (column 8, line 49-56); and

Applying controlled, equalization to an image generated by the image capture device (column 10, line 6-16).

Paik et al. do not explicitly mention that the controlled, histogram equalization uses a concentration ratio.

Miyamoto, in analogous environment, teaches an image forming process and image forming apparatus, where using a concentration ratio of the liquid (paragraph [0030], line 8-10), (the using of concentration ratio of the liquid is read as the same concept as the determining of concentration ratio of tiles, since the ratio concentration is a number).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Miyamoto, where using the concentration ratio of the liquid, in the system of Sussman et al. in order to further improve the image quality in the forgoing image forming method (paragraph [0015], line 1-3).

**Allowable Subject Matter**

14. Claims 2,7-9, and 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Contact Information:**

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amara Abdi whose telephone number is (571) 270-1670. The examiner can normally be reached on Monday through Friday 7:30 Am to 5:00 PM E.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wu Jingge can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amara Abdi  
10/24/07



JINGGE WU  
SUPERVISORY PATENT EXAMINER